Oxford Cambridge and RSA

OCR-set Assignment

Sample Assessment Material

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Human Biology

Unit F176: The brain

Scenario Title: Scooter accident patient (Alex)

Valid for assessment from September 20XX to 20XX.
For use by students beginning the qualification in September 20XX.

This is a sample OCR-set assignment which should only be used for practice**.**

This assignment **must not** be used for live assessment of students.

The live assignments will be available on our secure website, 'Teach Cambridge'.

The OCR administrative codes linked to this unit are:

- unit entry code F176
- certification code H149

The regulated qualification number linked to this unit is:

610/3946/9

Duration

About:

- 20 hours of supervised time (GLH)
  (work that **must** be completed under teacher supervised conditions)
- 4 hours of unsupervised time
  (work that students can complete independently without teacher supervision)

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Information and instructions for Teachers

Using this assignment

This assignment provides a scenario and set of related tasks that reflect how a member of a healthcare team would construct and present a traumatic brain injury (TBI) treatment plan to a team of specialists and provide an outline of the plan to share with the patient and their family.

You can give this to students on or after 1 June 202X to help them understand it before they start using it for assessment. The dates for which students can use it for assessment are shown on the front cover.

The assignment:

- Is written so that students have the opportunity to meet the requirements of all assessment criteria for the unit.
- Will tell students if their evidence must be in a specific format. If the task does not specify a format, students can choose the format to use.
- **Must** be completed under teacher supervision. Any unsupervised time allowed will be explained in the assessment guidance.

We have estimated that this assignment will take about 20 hours of supervised time and 4 hours of unsupervised time to complete. Students should need approximately:

- 7 hours to complete Task 1
- 7 hours to complete Task 2
- 6 hours to complete Task 3
- 4 hours to complete Task 4

You **must**:

- Use an OCR-set assignment for summative assessment of students.
- Familiarise yourself with the assessment criteria and assessment guidance for the tasks. These are given at the end of each student task. They are also with the unit content in **Section 5** of the Specification.
  Assessment guidance is only given where additional information is needed. There might not be assessment guidance for each criterion.
- Make sure students understand that the assessment criteria and assessment guidance tell them in detail what they need to do in each task.
- Read and understand **all** the rules and guidance in **Section 7** of the Specification **before** your students start the set assignments.
- Make sure that your students complete the tasks and that you assess the tasks fully in line with the rules and guidance in **Section 7** of the

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Specification.

- Give your students the Human Biology **Student guide to NEA assignments before** they start the assignments.

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You **must not**:

- Use live OCR-set assignments for practice or formative assessment. This sample assessment material **can** be used for practice or formative assessment.
- Use this sample assessment material for live assessment of students.
- Allow group work for **any** task in this assignment.
- Change any part of the OCR-set assignments or assessment criteria.

Pages 1-4 are for teachers only. Please do **not** give **Pages 1-4** to your students.

You can give **any** or **all** of the pages **that follow** to your students.

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Tasks for students and assessment criteria

Unit F176: The brain

Scenario Title: Scooter accident patient (Alex)

Valid for assessment from September 20XX to 20XX.
For use by students beginning the qualification in September 20XX.

Scenario

You are a member of a healthcare team and have been asked to construct a treatment plan for a traumatic brain injury (TBI) patient. You will need to create a presentation for other members of your healthcare team and adapt your presentation for the patient and their family.

Case study

A patient called Alex arrived at a hospital A&E department one week ago. Alex had been involved in a scooter accident and had hit their head on a wooden post.

On arrival, the A&E team followed the standard protocol for this type of accident.

- The doctor leading the team talked to Alex and Alex responded.
- Alex reported acute pain on both sides of their head and that they sensed deep pain in their right shoulder and rib cage.
- The doctor asked members of the A&E team to check Alex's pulse rate, examine their shoulder and rib cage, and to monitor their breathing rate.
- Alex was given a drug to control the pain and a blood sample was taken.
- Alex was taken to the radiography department for a CT scan and the doctor checked the scan.
- The doctor concluded that the initial source of the trauma was on one side of the brain and that the resulting area of tissue damage was located on the other side of the brain.
- Scans taken above and below the region of the brain shown in the image did not reveal further damage.

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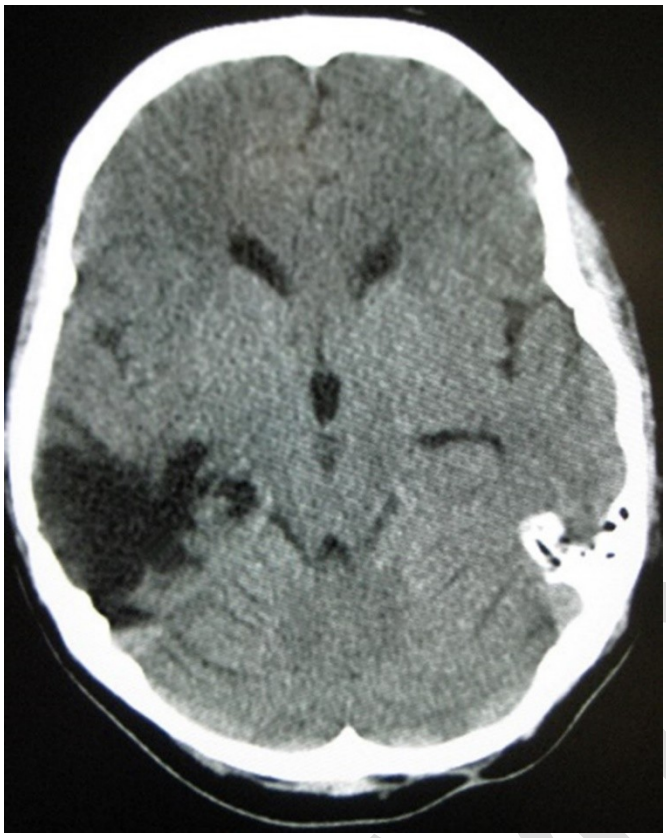
The CT image of Alex's brain is shown below.



The doctor contacted a neurological consultant. It was concluded that brain surgery should not be immediately carried out, but Alex would be monitored closely during the next 8 hours.

During the 8-hour monitoring period:

- Alex's shoulder damage was corrected by manipulation.
- The rib damage was found not to be as significant as first thought.
- Alex's plasma oxygen and carbon dioxide levels almost returned to normal.
- Alex continued to have an abnormal breathing pattern.
- The pulse rate was also recorded at >100 beats per minute.

Following the monitoring period, brain surgery was undertaken to enable the site of the trauma to be repaired. This resulted in satisfactory recovery of the initial damage to the skull, meninges, and underlying brain tissues at this site.

Further CT scans over the following few weeks indicated that the tissue damage on the other side of the brain had failed to repair. Some of the tissue appeared to be necrotic but this was not spreading into surrounding tissues. The consultant neurologist requested further investigations to be carried out.

Alex had incomplete vision and struggled to walk without assistance. They continued to experience head and shoulder pain and followed a drug regime to control the pain. Alex's family confirmed that they were behaving in an abnormally aggressive manner and becoming increasingly anxious.

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Task 1
Assessing the injury

Topic Areas 1 to 5 are assessed in this task.

The task is:

Assess the injury of the TBI patient in the case study.

- Research how the symptoms relate to the TBI suffered by the patient.
- This task will enable you to generate a treatment plan specific to the patient in **Task 2**.

Your evidence **must** include:

- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P1: Interpret the scan image to identify those regions of the brain likely to be affected by the TBI. (PO2)	**M1: Evaluate** the advantages and disadvantages of using different scanning techniques for the diagnosis of the TBI in the case study. (PO3)	**D1: Justify** why an EEG should be used to confirm the impact of the TBI on nerve impulse transmission in the patient's brain. (PO3)
P2: Draw a fully annotated low-power plan diagram to show parts of the brain anatomy affected by the TBI. (PO4)		
P3: Use research to **describe** how the patient's symptoms relate to the TBI in the case study. (PO4)	**M2: Describe** the wider impact of the patient's injuries on their physical and mental wellbeing. (PO2)	**D2: Explain** whether the spinal cord and nerves are affected by the TBI in the case study. (PO2)

Assessment Guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance

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P1	• Students need to interpret the scan image shown in the case study for the TBI patient. • Students must recognise the prominent part(s) of the brain damaged at the site of the injury and the part(s) showing signs of damage, as relevant to the scan from the case study.
P2	• The interpretation of the scan image could be written only but to achieve **P2** a diagrammatic model must be included to demonstrate the parts of the brain affected by the TBI. This could be presented via either a vertical section (VS) or transverse section (TS) of brain anatomy.
P3	• The symptoms shown by the TBI patient are outlined in the case study. Symptoms may have been recorded before and/or following surgery. • Students must research how symptoms of TBIs link to brain structure and function. • Students must apply their research to the information from the case study. • The research element of this criterion does **not** need to be completed under teacher supervised conditions but is necessary in order for students to access the criterion.
M1	• The case study confirms that the image is the product of a scanning technique. The image reveals the site of injury and of damaged tissue. • Students must evaluate the advantages and disadvantages of the scanning technique from the case study. • Students must also evaluate the advantages and disadvantages of using **two other** scanning techniques for the diagnosis of the TBI in the case study.
M2	• Students must describe the wider impact of the patient's injuries on their physical and mental well-being. • The patient's injuries could be considered to be any from the range of symptoms and behaviours shown by the patient in the case study.
D1	• Students need to give valid reasons why some of the symptoms shown by the patient in the case study are the product of a change to nerve impulse transmission. This forms the justification that the change can be confirmed via an EEG.
D2	• Students must explain whether the spinal cord and nerves are affected by the TBI for the patient in the case study. This might involve the link between the spinal cord and the brain, as well as the role of cranial versus spinal nerves.

Advice:

- You should clearly reference any information from books, websites or course notes to support your evidence.

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Task 2

Planning for the treatment of the TBI patient

Topic Areas 1 to 5 are assessed in this task.

The task is:

Plan for the treatment of the TBI patient.

- The information you provide should reflect your assessment of the injury from **Task 1**.

Your evidence must include:

- A treatment plan specific to the TBI patient
- A drug prescription schedule
- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P4: Use research to **describe** how a range of relevant potential treatments could be appropriate for the TBI patient. (PO4)	**M3: Evaluate two** physical treatments and **two** psychological treatments which are needed to aid recovery of the patient. (PO3)	**D3: Analyse** how the options chosen for pain management affect the patient on a cellular level. (PO3)
P5: Create a logical treatment plan, containing all key components to meet the physical, psychological and personal needs of the patient. (PO4)		
P6: Design a relevant schedule for drug prescription for the TBI patient. (PO4)		
P7: Describe what contributions are required to be made by the specialists and non-specialists involved in the treatment plan. (PO2)	**M4: Discuss** the use of different teams of healthcare professionals to support the patient. (PO3)	

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Assessment Guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
P4	• Students must identify a range of **at least three** potential physical treatments and **at least three** psychological treatments that could be appropriate for the TBI patient. • For each treatment students must describe how each treatment is appropriate for the TBI patient in the case study. • The research element of this criterion does **not** need to be completed under teacher supervised conditions but is necessary in order for students to access the criterion.
P6	• Students must design a relevant drug prescription for the TBI patient based on the information in the case study. The drugs prescribed could be to either treat or reduce the symptoms shown by the patient. • An explanation of how drugs affect nerve impulse transmission is **not** expected for this assessment criterion.
P7	• **P7** is an extension of the treatment plan created in **P4**. • Students must describe the contributions of the most appropriate specialists needed to treat and support the patient (for example, doctor, physiotherapist, clinical psychologist, etc) as appropriate to the case study. • Students must describe the contributions of the most appropriate non-specialists needed to support the patient (for example, the patient, family members, carers, etc) as appropriate to the case study.
M3	• **M3** is an extension of **P4**. • Students must evaluate **two** physical treatments and **two** psychological treatments in the context of the patient. The treatments evaluated need to come from those described in **P4**.
M4	• **M4** is an extension of **P7**. • Students must discuss how different teams of healthcare professionals will be used to support the patient. • The specific healthcare teams discussed will depend on the case study context. All relevant healthcare teams should be discussed.
D3	• Students must analyse how the options chosen for pain management, as part of the treatment plan and/or drug prescription schedule, affect the patient on a cellular level.

Advice

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- You should clearly reference of any information from books, websites or course notes to support your evidence must be included.

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Task 3

Creating materials for specific audiences

Topic Areas 1 to 5 are assessed in this task.

The task is:

Create a presentation of the treatment plan appropriate for the specialists involved in the case study.

- You need to create a presentation for the specialists identified in the treatment plan in **Task 2**.
- You will also need to explain what adaptations you would make to the presentation so that it would be appropriate for use with the patient and their family.

Your evidence **must** include:

- A presentation for the specialists from the case study
- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P8: Create an appropriate presentation of the treatment plan for the specialists identified in **Task 2**. (PO4)	**M5: Explain** the most appropriate way for scientific terminology used in the presentation for the specialists to be communicated with the non-specialists. (PO2)	**D4: Justify** the content of the presentation by detailing the scientific reasoning behind its inclusion. (PO3)
P9: Suggest four adaptations to the presentation so that it can be used to communicate the treatment plan to the non-specialists in the case study effectively. (PO2)	**M6: Explain** the adaptations suggested to the presentation in **P9** so that the non-specialists in the case study can understand their contribution to the treatment plan. (PO2)	
P10: Draw a simplified low power plan diagram to show parts of the brain anatomy affected by the TBI for the non-specialists in the case study. (PO4)		

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Assessment Guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
P8	• Students must create a presentation for the specialists identified in the treatment plan in **Task 2**. The presentation should be in the format they feel is most appropriate, which could include a poster, a PowerPoint presentation, a flow diagram, etc. • There must be sufficient detail in the presentation to demonstrate the key components of the treatment plan appropriate for the specialists.
P9	• Having created the presentation for the specialists, students must consider how it could be adapted to be relevant and accessible for the non-specialists from the case study. • Students might choose to create a further presentation to highlight the adaptations needed or they might choose to suggest adaptations in a different format, for example a table. • Adaptations suggested should focus on the changes to the presentation required, for example different parts of the plan which should be concentrated on, information which could be removed or added, etc. Amendments should not focus on changes to scientific terminology which will be considered in M5.
M5	• Students must explain the most appropriate way for **at least three** examples of scientific terminology used in the presentation for the specialists to be modified to be communicated with the non-specialists. • Students could choose to consider ways the terminology might be scaffolded, re-phrased, amended or why they would need to use a particular scientific term as it is.
M6	• **M6** is an extension of **P9**.
D4	• Students must justify the content of the presentation for the specialists by detailing the scientific reasoning. • Students will use their understanding of the unit content to provide valid reasons for the content's inclusion.

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Task 4

Reviewing the treatment plan and presentations

Topic Areas 1 to 5 are assessed in this task.

The task is:

Review your treatment plan, presentation and suggested adaptations, using your own reflections and feedback of your peers.

- Following the creation of the information for the treatment plan of the TBI patient and the creation of materials for different audiences, you are now required to carry out a review.
- For the review you must reflect on all of the information and materials created.
- You must also obtain feedback from peers on your treatment plan.

Your evidence **must** include:

- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P11: Summarise the feedback received for your treatment plan. (PO2)	**M7: Assess** the strengths and weaknesses of the information used in the creation of treatment plan for the TBI patient. (PO3)	**D5: Justify** any potential improvements to the information used in the creation of treatment plan for the TBI patient. (PO3)
P12: Analyse the strengths and weaknesses of the materials created to present information to the specialists and suggested adaptations for the non-specialists. (PO3)		

Assessment Guidance

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Assessment Criteria	Assessment guidance

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P11	• Students must clearly express the most important points stemming from the feedback received for their treatment plan in a short and clear form. • The feedback for their treatment plan might be provided by the teacher and/or other students.
M7	• The information used in the creation of the treatment plan might include the **case study**, **Task 1** and/or **Task 2**.

NEA Command Words

The table below shows the command words that may be used in the NEA assignments and/or assessment criteria.

Command Word	**Meaning**
Adapt	• Change to make suitable for a new use or purpose
Analyse	• Separate or break down information into parts and identify their characteristics or elements • Explain the different elements of a topic or argument and make reasoned comments • Explain the impacts of actions using a logical chain of reasoning
Assess	• Offer a reasoned judgement of the standard or quality of situations or skills. The reasoned judgement is informed by relevant facts
Calculate	• Work out the numerical value. Show your working unless otherwise stated
Classify	• Arrange in categories according to shared qualities or characteristics
Compare	• Give an account of the similarities and differences between two or more items, situations or actions
Conclude	• Judge or decide something
Describe	• Give an account that includes the relevant characteristics, qualities or events
Discuss (how/whether/etc)	• Present, analyse and evaluate relevant points (for example, for/against an argument) to make a reasoned judgement
Evaluate	• Make a reasoned qualitative judgement considering different factors and using available knowledge/experience
Examine	• To look at, inspect, or scrutinise carefully, or in detail
Explain	• Give reasons for and/or causes of something • Make something clear by describing and/or giving information
Interpret	• Translate information into recognisable form • Convey one's understanding to others, e.g. in a performance
Investigate	• Inquire into (a situation or problem)

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Justify	• Give valid reasons for offering an opinion or reaching a conclusion
Research	• Do detailed study in order to discover (new) information or reach a (new) understanding
Summarise	• Express the most important facts or ideas about something in a short and clear form

We might also use other command words but these will be:

- commonly used words whose meaning will be made clear from the context in which they are used
- subject specific words drawn from the unit content.

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